

FIGURES

Figure 1. Diagrams for some P-DNA vectors

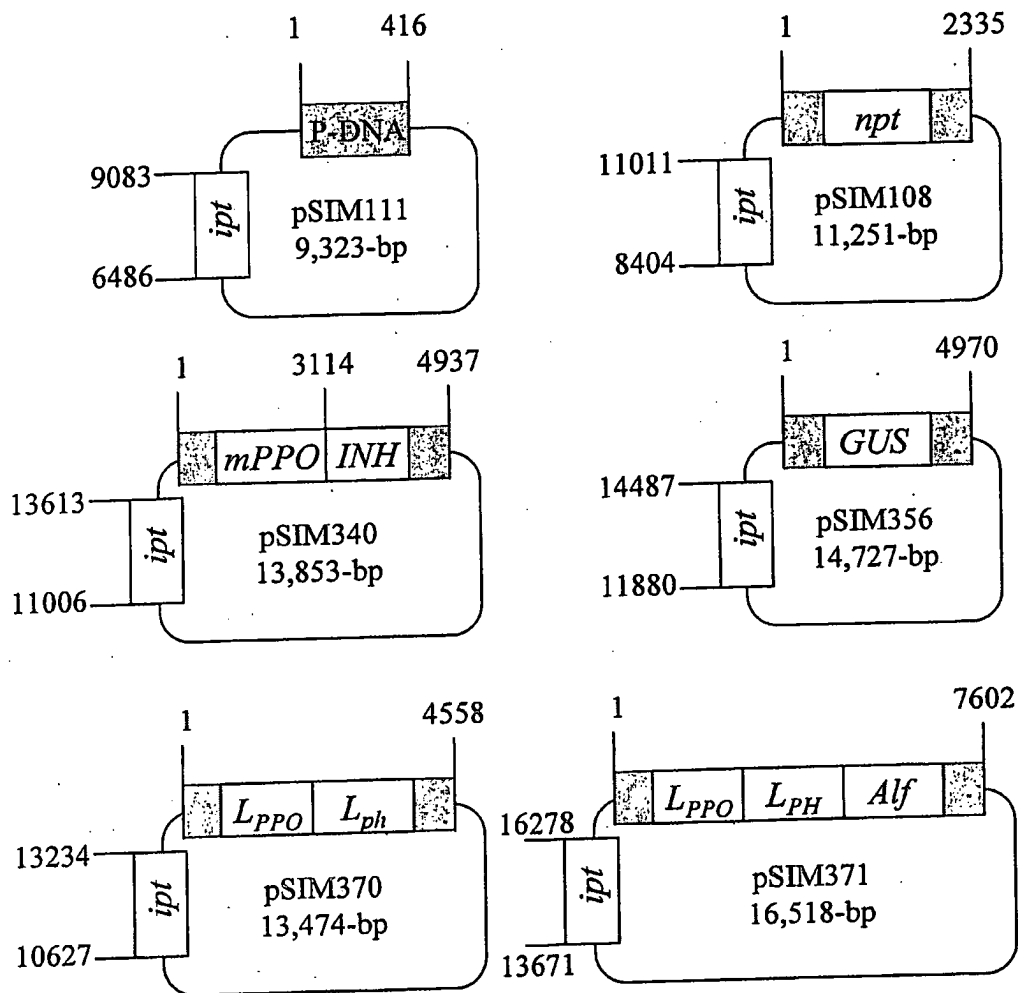


Figure 2. Alignment of potato and tobacco invertase inhibitor proteins

A.

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St-inh1      MRNLFPIILMLITNLALNNDNNNNNNNNNNNYNLIHATCRETPYYSCLTTLQSGPRSNEVE 60
Nt-inhh      MRNLFPIFMLITNLAFN-DNNNSNN-----IINTTCRATTNYPLCLTTLHSDPRTSEAE 53
              *****:*****:* ****:*          :*:*** * . *****:*.**:*.*
              *

St-inh1      GGDAITTLGLIMVDAVKSKSIEIMEKIKELEKSNPEWRAPLSQCYVAYNAVLRADVTAV 120
Nt-inhh      GAD-LITLGLVMVDAVKLKSIEIMKSIKKLEKSNPELRPLSQCYIVYYAVLHADVTAV 112
              *. * :*****:***** *****:*.***** * *****:.* ****:*****

St-inh1      EALKKGAPKFAEDGMDDVVAEAOQCEYSFNYYNKLDFPISNLSREIIELSKVAKSIIRML 180
Nt-inhh      EALKRGVPKFAENGMDVVAEAEQCEFSFK-YNGLVSPVSDMNKEIIESSVAKSIIRML 171
              *****:*****:* ****:*****:*** * * *:***:*****:*****

St-inh1      L 181
Nt-inhh      L 172
              *

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B.

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St-inh1      MRNLFPIILMLITNLALNNDNNNNNNNNNNNYNLIHATCRETPYYSCLTTLQSGPRSNEVE 60
Nt-inhh      MKNLIFLTMTLTILLQTNANN-----LVETTCRNTPNYQLCLKTLLSDKRS--AT 48
              *:***: : *:*** * .* **          *:*****:*** *****.* . ** .

St-inh1      GGDAITTLGLIMVDAVKSKSIEIMEKIKELEKSNP--EWRAPLSQCYVAYNAVLRADVTV 118
Nt-inhh      G--DITTLALIMVDAIKAKANQAQAVTISKLRHSNPPAAWKGPLKNCAFSYKVIILTASLPE 106
              * ****:*****:*.*: : .*:*.*** *:***:*. *:***:*. *.:.

St-inh1      AVEALKKGAPKFAEDGMDDVVAEAOQCEYSFNYYNKLDFPISNLSREIIELSKVAKSIIR 178
Nt-inhh      AIEALTKGDPKFAEDGMVGSSGDAQECE---EYFKGSKSPFSALNIAVHELSDVGRAIVR 163
              *:***.* ***** . .:*** ** :*: . *: * . : *****:***

St-inh1      MLL 181
Nt-inhh      NLL 166
              **

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Figure 3. Gene-free expression cassettes

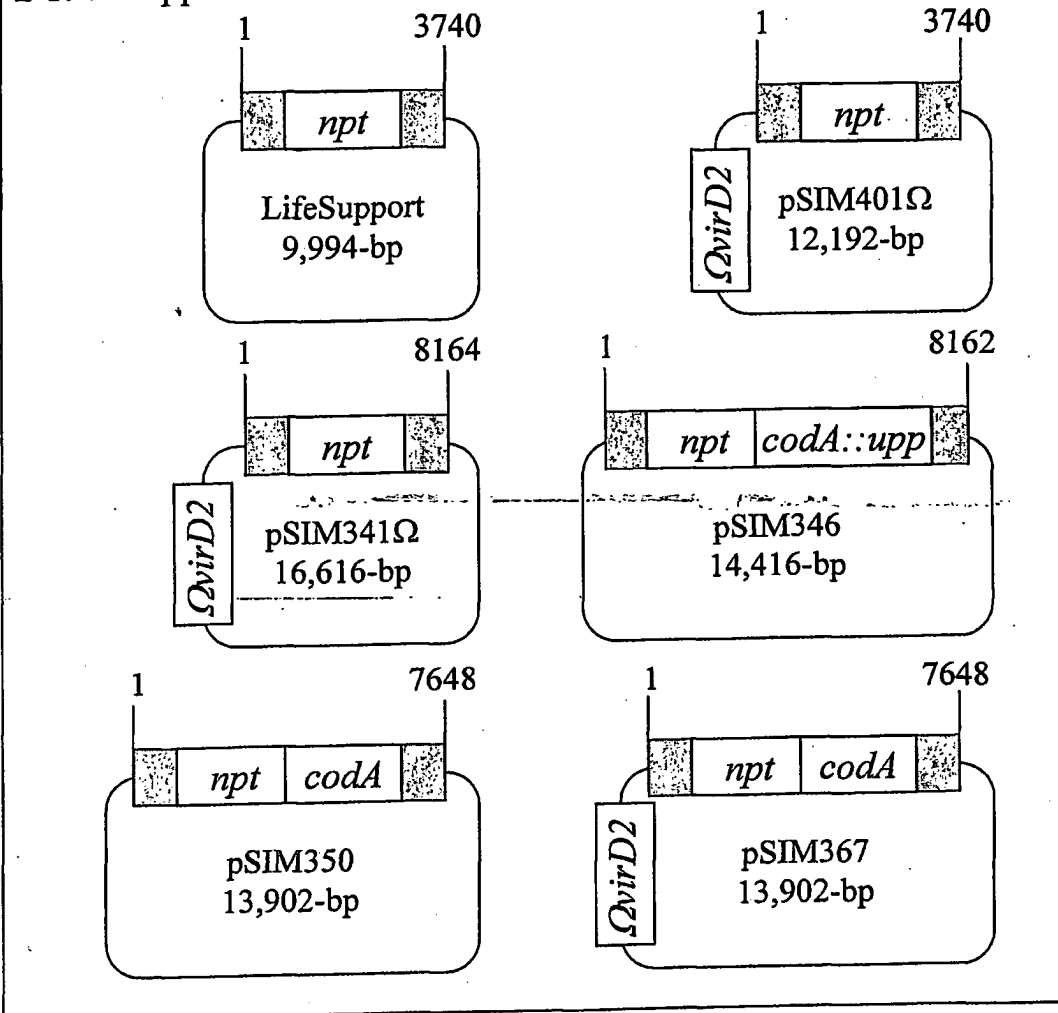
<i>Promoter</i>	<i>SOI*</i>	<i>Spacer</i>	<i>Total size</i>
P:GBSS-small	Leader a/w** R1	Ubi intron	1729-bp
P:GBSS-small	Leader a/wR1	GBSS spacer	1397-bp
P:GBSS-large	Leader a/wR1	Ubi intron	2005-bp
P:GBSS-large	Leader a/wR1	GBSS spacer	1397-bp
P:GBSS-small	Trailer a/wR1	GBSS spacer	2042-bp
P:GBSS-small	Trailer a/wR1	Ubi intron	1705-bp
P:GBSS-large	Trailer a/wR1	GBSS spacer	2313-bp
P:GBSS-large	Trailer a/wR1	Ubi intron	1981-bp
P:GBSS-small	Leader a/wPhosph	GBSS spacer	-
P:GBSS-small	Leader a/wPhosph	Ubi intron	-
P:GBSS-large	Leader a/wPhosph	GBSS spacer	1852-bp
P:GBSS-large	Leader a/wPhosph	Ubi intron	2184-bp
P:GBSS-large	Leader a/wPPO	Ubi intron	1958-bp
P:GBSS-large	Leader a/wPPO	GBSS spacer	1626-bp
P:GBSS-small	Leader a/wPPO	Ubi intron	-
P:GBSS-small	Leader a/wPPO	GBSS spacer	-

*: sequence-of-interest; **: "associated with"

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Figure 4. Alignment of the 3'-end of tuber-expressed PPO genes and trailers associated with these genes. Stop codons ('TAA') are underlined. The trailer sequence used for genetic modification of potato plants was isolated from 'P-PPO3', and is downstream from the stop codon (TTAGTC...ACAATT).

P-PPO3	CTGGCGATAACGGAAGTGGTGGAGGATATTGGTTTGGAAAGATGAAGATACTATTGCGGTG	60
PPOM-41	CTGGCGATAACGGAAGTGGTGGAGGATATTGGATTGGAAGATGAAGATACTATTGCGGTG	60
PPOM-44	CTGGCGATAACGGAAGTGGTGGAGGATAATGGATTGGAAGATGAAGGTACTATNGCGGTG	60
P-PPO3	ACTCTGGTGCCAAAGAGAGGTGGTGAAGGTATCTCCATTGAAAGTGCGACGATCAGTCTT	120
PPOM-41	ACTTTGGTTCCAAAAGTAGGTGGTGAAGGTGTATCCATTGAAAGTGCGAGATCAAGCTT	120
PPOM-44	ACTTTGGTTCCAAAAGTTGGTGGTGAAGGTGTATCCATTGAAAGTGCGGAGATCAAGCTT	120
P-PPO3	GCAGATTGTTAATTAGTCTCTA-TTGA-ATCTGCTG----AGATTACAC-TTGATGGAT	173
PPOM-41	GAGGATTGTTAAGTCCTCATGAGTTGGTGGCTACGGTACCAAATTTATGTTTAATTAGT	180
PPOM-44	GAGGATTGTTAAGTCCTCATGAGTTGGTGGCTATGGTACCAAATNTATGTTTAATTAGT	180
P-PPO3	GATGCTCTGTT--TTTGTTCCTTGTCTGTTTTCCTC-TGTTGAAATCAGCTTGT	230
PPOM-41	ATTAATGTGTGTATGTGTTTGATTATGTTTCGGTTAAATGTATCAGCTGGATAGCTGAT	240
PPOM-44	ATTAATGTGTG---TGTTTGATTATGTTTCGGTTAAATGTATCANCTGGATAGCTGAT	236
P-PPO3	-----GCTTGATTG-----ATTGAAGTTGTTATTCAAGAA-TAAATCAGTTA-CAATT-----	277
PPOM-41	TACTAGCCTTGCCAGTTGTTAATGCTATGTATGAAATAAATAAATAATGGTTGTCTTCT	300
PPOM-44	TACTAGCCTTGCCAGTTGTTAATGCTATGTATGAAATACATAAATAAATAATGGTTGTCTTCC	296

Figure 5. Diagrams for some LifeSupport vectors**2-strain approach:****1-strain approach:**